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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/501,408	02/10/00	SERRE	F A32979-07033

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EXAMINER	
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ART UNIT	PAPER NUMBER
1714	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
09/501,408	Serre
Examiner	**Group Art Unit**
Callie Shosho	1714

☐ Responsive to communication(s) filed on _____

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 1-9 is/are pending in the applicat

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-9 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☒ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 4

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(a) Claims 1 and 3 disclose "..a synthetic polyisoprene having a majority of cis-1,4 bonds..". The scope of the claim is confusing because it is not clear what is meant by "majority". Must the polyisoprene contain 50% cis-1,4 bonds, 60% cis 1,4-bonds, etc.?

Similarly, claim 2 discloses that "the natural rubber or synthetic polyisoprene comprises the majority of the elastomer in the composition". As discussed above, the scope of the claim is confusing because it is not clear what is meant by "majority".

(b) Claim 1, line 8 discloses amounts of filler. However, it is not clear if these amounts refer to the amount of white filler present in the filler mix or only to the amount of carbon black present in the filler mix. If this amount refers to the white filler, it is suggested that the phrase "wherein said white filler is present" is inserted in line 7, after "260 m^2/g" and before "in".

(c) Claim 4 discloses that the diene elastomer is modified "by an engrafted carbon black filler a SiOH or AlOH surface function, ..". The scope of the claim is confusing because it is not clear what is meant by "engrafted". Is the carbon black is grafted to the diene elastomer or if the carbon black itself grafted with some moiety? Further, it is not clear if the carbon black contains the SiOH and AlOH surface functions or if the diene elastomer contains the SiOH and AlOH surface functions.

(d) Claim 5 discloses that the carbon black in the elastomeric filler mix of claim 1 has specific surface area. However, it is not clear if this is the carbon black associated with the reinforcing filler (i) or the reinforcing filler (ii).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claims 1, 5, 7, and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Sandstrom et al. (U.S. 6,046,266).

Sandstrom et al. disclose an elastomeric filler mix used for reinforcement of tire sidewalls wherein the mix contains natural rubber, 40-80 phr filler containing 20-60 phr precipitated silica and 15-60 phr carbon black including N234 which is well known to have BET surface area of 121 m^2/g, and coupling agent. It is calculated from Sample A, that the mix contains ratio of coupling agent to silica of 0.2 which overlaps the presently claimed ratio (col.3, lines 1-13, col.4, lines 36-40, col.5, lines 10-30, col.7, lines 1 and 25, and col.10, lines 35-53).

In light of the above, it is clear that Sandstrom et al. anticipates the present claims.

5. Claims 1-3, 5, and 7-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Matsuo (U.S. 5,929,157).

Matsuo disclose an elastomeric filler mix used for reinforcement of the sidewalls wherein the mix contains 100 parts rubber including natural rubber, 10-60 phr precipitated silica, and 5-50 phr carbon black including FEF, HAF, ISAF, N339, and N351 which are well known to have BET surface areas of 42 m^2/g, 79 m^2/g, 120 m^2/g, 93 m^2/g, and 74 m^2/g, respectively. Thus, it is calculated that the total amount of filler ranges from 15-110 phr. There is also disclosed the use of additional diene such as polybutadiene containing 96% cis 1-4 bonds and styrene/butadiene rubber (col.2, lines 26-27, 46-49, and 65-67, col.3, lines 1-2, 22, 30, 39-42, and 51-56, and col.5, line 60-col.6, line 5). From example 1, for instance, it is calculated that the ratio of coupling agent to silica is 0.1, which clearly falls within the claimed range of 0.02 to 0.15. From the examples, it is clear that the natural rubber comprises the majority of the elastomer in the

composition. Particular attention is drawn to example 2, which discloses the use of 50 phr filler comprising 40 phr silica and 10 phr carbon black, which clearly meets the requirement that the amount in phr of white filler is greater than or equal to the amount in phr of carbon black minus 5 as presently claimed

In light of the above, it is clear that Matsuo anticipates the present claims.

6. Claims 1-3 and 5-6 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 799854.

EP 799854 discloses an elastomeric filler mix comprising 100 parts natural rubber and 10-100 parts modified carbon black filler having specific surface area of 55-250 m^2/g. There is also disclosed the use of an additional diene elastomer such as styrene/butadiene, however, natural rubber comprises the majority of the elastomer composition (page 2, lines 8-10, page 3, lines 27-28, page 4, lines 7-10 and 21-32, page 9, lines 15-30, and Table II-3).

In light of the above, it is clear that EP 799854 anticipates the present claims.

7. Claims 1-3 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 738614.

EP 738614 discloses an elastomeric filler mix comprising 30-80 parts natural rubber, 10-30 parts high-cis 1,4-polybutadiene, styrene/butadiene, or styrene/isoprene/butadiene rubber, 40-85 phr filler containing 20-60 phr carbon black and 12-80 phr precipitated silica, and 16/100 coupling agent by weight silica (page 3, lines 45-51, page 3, line 56-page 4, line 2, and page 9).

In light of the above, it is clear that EP 738614 anticipates the present claims.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuo (U.S. 5,929,157) in view of Takeichi et al. (U.S. 6,008,295).

The disclosure with respect to Matsuo in paragraph 5 above is incorporated here by reference.

The difference between Matsuo and the present claimed invention is the requirement in the claims of specific type of additional diene elastomer.

Takeichi et al., which is drawn to rubber compositions for tires, discloses the use of silicon or tin halide modified diene elastomer in order to produce a composition with excellent traction, rolling resistance, and fracture property like wear performance (col.1, lines 12-15, col.2, lines 34-55, and col.6, lines 45-55).

In light of the motivation for using specific type of diene elastomer disclosed by Takeichi et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use this diene elastomer in the elastomeric filler mix composition of Matsuo in order to produce a mix with excellent traction, rolling resistance, and fracture property like wear performance, and thereby arrive at the claimed invention.

10. Claims 1-5 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (U.S. 5,902,856).

Suzuki et al. discloses an elastomeric filler mix used for tire parts including carcass, sidewall, and beads wherein the mix comprises 5-90 parts natural rubber, 10-95 parts modified styrene-butadiene rubber including those starred by silicone or tin halide, 10-200 phr filler comprising carbon black having BET surface area of 5-200 m/g and precipitated silica, and coupling agent (col.2, lines 5-15, and 36-58, col.6, lines 38-64, col.9, lines 10-22, col.9, line 56-col.10, line 7, col.10, lines 18 and 33-38). Attention is drawn to example 4, which discloses the ratio of coupling agent to silica is 0.06.

While Suzuki et al. fails to exemplify the presently claimed elastomeric filler mix nor can the mix be "clearly envisaged" from Suzuki et al. as required to meet the standard of anticipation (cf. MPEP 2131.03), nevertheless, in light of the overlap between the claimed elastomeric filler mix and that disclosed by Suzuki et al., it is urged that it is obvious that it would have been within the bounds of routine experimentation, as well as within the skill level of one of ordinary skill in the art, to use an elastomeric filler mix which is both disclosed by Suzuki et al. and encompassed within the scope of the present claims, and thereby arrive at the claimed invention.

11. Claims 1-2, 5, 7, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takagishi et al. (U.S. 6,013,737).

Takagishi et al. disclose an elastomeric filler mix used for tire parts including carcass, sidewall, and beads, wherein the mix contains natural rubber as well as additional resin wherein natural rubber comprises the majority of the elastomer in the composition, 30-80 phr precipitated silica, 5-50 phr carbon black having BET surface area of 80-130 m^2/g, and 1/100 to 20/100 parts silane coupling agent by weight of silica. Thus, it is calculated that the total amount of filler ranges from 35-130 phr (col.1, line 64, col.5, lines 30-45 and 51, col.6, lines 16, 29-32, 37-41, 51-54, and 58-62, col.7, line 6).

While Takagishi et al. fails to exemplify the presently claimed elastomeric filler mix nor can the mix be "clearly envisaged" from Takagishi et al. as required to meet the standard of anticipation (cf. MPEP 2131.03), nevertheless, in light of the overlap between the claimed

elastomeric filler mix and that disclosed by Takagishi et al., it is urged that it is obvious that it would have been within the bounds of routine experimentation, as well as within the skill level of one of ordinary skill in the art, to use an elastomeric filler mix which is both disclosed by Takagishi et al. and encompassed within the scope of the present claims, and thereby arrive at the claimed invention.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following prior art discloses elastomeric filler mixes:

Nakamura et al. (U.S. 6,075,092)

Zimmer et al. (U.S. 6,090,880)

Lucas et al. (U.S. 5,681,874)

Midorikawa et al. (U.S. 6,103,811)

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie Shosho whose telephone number is (703) 305-0208. The examiner can normally be reached on Mondays-Thursdays from 7:00 am to 4:30 pm. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (703) 306-2777. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3599.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

C. S.

Callie Shosho

8/24/00